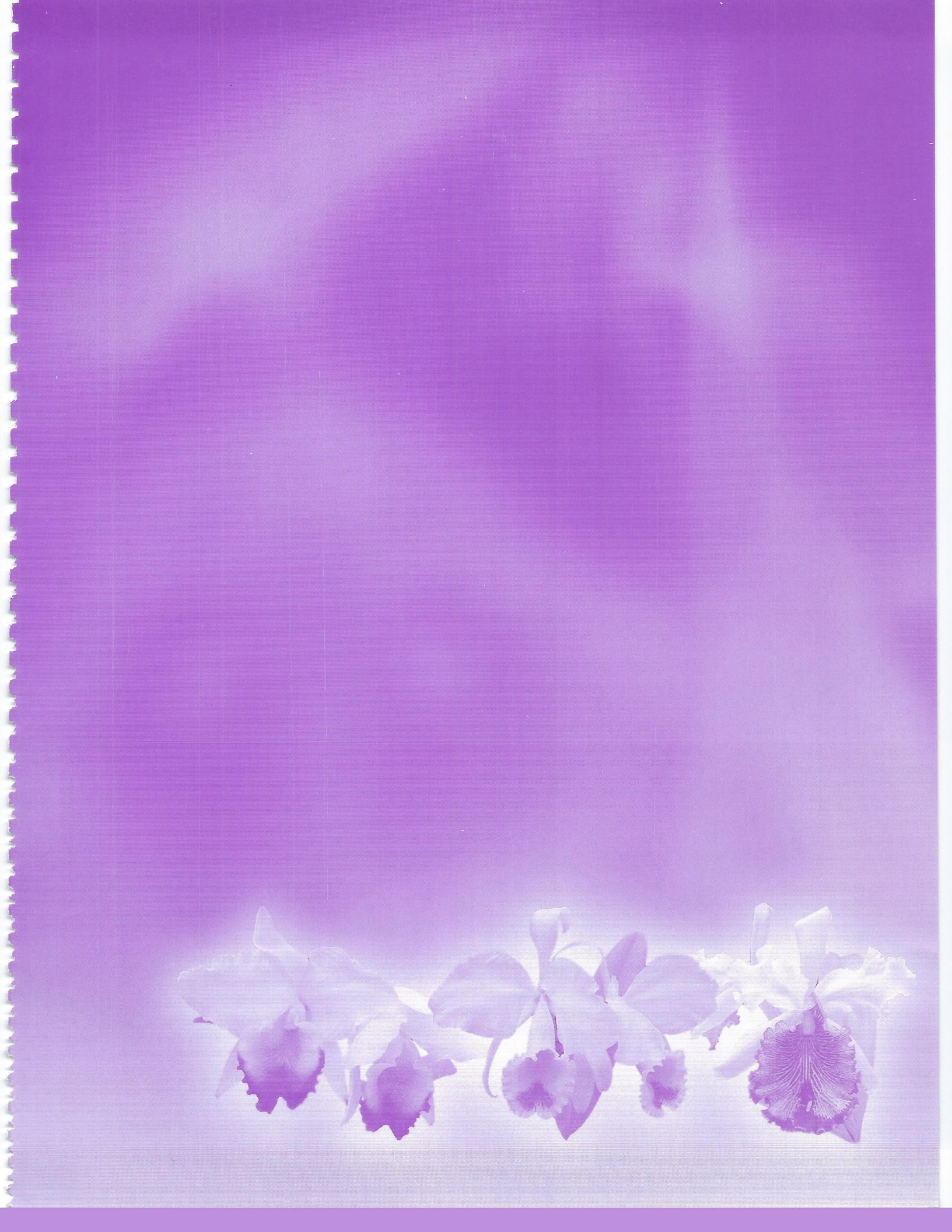
The Colombian Cattleya and their color variation

Thomas Toulemonde L.



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Second edition. March 2004

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Printed in Colombia

In memory of my loving father

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Introduction

Introduction

Colombia is without any doubt one of the countries with the best assortment of Cattleya in the Americas. Little has been written about them in the last few years. In some cases, what little has been written is misleading or even has completely wrong information.

This book is intended to shed some light on the color variations found in seven of the nine Colombian Cattleya. No other book on Colombian Cattleya has gathered as many pictures as the present volume. Particular attention is paid to chromatic variations. New color variations are depicted.

Although the plants pictured here represent some of the best specimens found in Colombian Cattleya collections, many plants simply are placed to show the "average" specimens in order to provide a good comparison point.

This volume also proposes a nomenclature for the most common color varieties. Although each plant has its unique set of color characteristics, only 15 different color varieties are described and used throughout the book.

A short note on each species is written to help understand each of the specific areas of origin. In addition, some cultural notes are written to orient growers on how to best grow the plants and adapt their particular conditions to the needs of the plants. When blooming seasons are given, they refer to plants in their natural habitat.

This information along with the pictures should also help orchid judges to evaluate the quality of plants presented to them, which in turn will promote growing of plants and the selection of the better specimens. The vast majority of plants shown here were originally wild collected and may have been in cultivation for as many as 50 years.

Most plants belong to Orquídeas Sua Mena from Pereira Colombia. However, I wish to thank the many people who have helped in this venture; in particular my very dear friends Masanobu Tsubota and his family, Mr. José Fernando Londoño for and his loving wife for their unconditional friendship, Mr. Juan Felipe Posada and Maria Victoria who have encouraged me; Dr. Anthony Alfieri for his help, and Mr. Francisco Villegas from Orquifollajes.

Last, I wish to thank my wife and family to whom this book is dedicated.

Cattleya aurea

CATTLEYA AUREA

Cattleya dowiana var. aurea was discovered by Wallis in 1868 near Frontino some 150 kilometers Northwest of Medellín in the state of Antioquia. It was then separated as a different species because its shape, color and aroma are quite different form the Costa Rican dowiana.

Cattleya dowiana from Central America has smaller flowers than Cattleya aurea. In addition, the petals and sepals of Cattleya dowiana are narrower and have a cuppery color. The blooming season in Costa Rica is generally over by Easter. When looking at both species, aurea has a more attractive presentation and has a much better contrast between the lip and the petals.

This Cattleya is found in four different zones of Colombia, all zones are in the western part of the country in the states of Risaralda, Chocó and Antioquia. The populations are very different depending upon their origin both in their chromatic aspect and in their growth requirements.

Zone 1: Valleys of the Atrato River to the upper part of the San Juan River in the state of Risaralda.

This variety is called chrysotoxa. It is found where moist winds ascending from the Pacific and the Chocó´s rainforest create a very humid environment as they cool down at higher elevations. It grows in a small region at an elevation of 750 meters above sea level between Pueblo Rico and Santa Cecilia in the state of Risaralda.

This variety is always where air movement is always present and the plants are found in tall trees quite exposed to sunlight.

These plants are very susceptible to rotting and fungal infections. The color of the flower is a bright yellow. The lip is very characteristic with clearly marked veins on top of a crimson red background color.

Lastly, the petals have generally a rib that makes them look like horns when the flower is seen from the front. This last characteristic is also true for the other varieties but is not as strong. Plants without this rib are rare and are highly desirable. This trait is probably dominant since it is present in F1 generations (Cattleya hardyana)

Zone 2: Northwest of the state of Antioquia towards the Urabá region and towards Panamá.

This variety is called dureda or aurea. This splendid variety requires dryer conditions for growth, although ventilation is also required for adequate development. Plants and flowers are generally larger, or have the potential to be larger than the other populations.

The plants of this variety have abundant roots; the color of the flower varies from a greenish yellow all the way to a bright yellow. The flower presents many color combinations on the lip; but most of times the veins are fused to form two eyes protruding towards the tip of the lip.

In a few cases, varieties are found where the eyes of the lip have almost completely fused covering the entire lip surface and leaving only a pink rim around the tip of the lip. This variety is called "rosea"

This variety is almost completely extinct in the wild. The region where this plant is originally found has been used for pastures; therefore, destroying its natural habitat. Furthermore, this Cattleya has been collected for years due to its very desirable characteristics for breeding.

The populations found in higher elevations have the same habitat as Cattleya warscsewiczii and very seldomly Cattleya hardyana is found. It is therefore the only population that may breed with Cattleya warscsewiczii to produce Cattleya hardyana.

Zone 3: Baudó zone.

This is the least known of all varieties and grows in a small area in the Cordillera del Baudó (a small mountain range near the pacific ocean). This variety was only discovered about 10 years ago when a road that was supposed to join the Pacific Ocean with the rest of the country was being built. As far I am aware, there are only about five plants known from this region. The road was construction was finally abandoned.

The petals are whiter than the other varieties and narrower as well. The lip is also lighter in color and shows veins like the chrysotoxa variety, making the red crimson color of the lip more evident. The variety resembles the most to Cattleya dowiana

Zone 4: The Chadó Sinú area.

This zone is quite small and plants were only discovered some 15 to 20 years ago only. The exact location of the area is intentionally left out to protect the species since it is only a few hundred meters long and wide.

Flowers have a deep yellow throat running outwards forming one large yellow dot that covers most of the lip. Lip venation has almost completely disappeared. The shape of the flowers is the best of all aurea populations.

To illustrate the variety a superb collection of pictures is shown in this volume.

Few seedlings have been bred by selfing this extraordinary variety. Some have already received very high awards. It has a tremendous potential for breeding.

Cattleya aurea grows always near rivers and water currents. It grows high on trees where it can use air currents that dry up their roots after rain showers and where evapotranspiration rates are higher than in the canopy underneath.

It grows at heights between 300 and 1.000 meters above sea level. Between the heights of 700 to 1.000 meters, it may be found with Cattleya warscsewiczii. It is frequently found on Anacardium excelsium (caracoli), Ceiba pentandra (Ceiba bonga) Ficus spp, Sterculia apelata (Camajón) and

Cariocar amygdaliferum.

In places where the forest has been cleared for pastures, there is a natural re-growth of plants on old coffee tree plantations, and sometimes on small trees that have a coarse bark.

Along with Cattleya schröderae, Cattleya aurea shares the attribute of being one of the Cattleya with the strongest and best aroma. It can be smelled long before the flower is actually seen.

The plant prefers to grow on pieces of wood that are not decomposed. It requires light regimes between 70% to 80%. The greenhouse must always be humid but not too much. In all cases, it requires good air circulation. When it is planted on clay or plastic pots, make sure that the medium is coarse and that the pot has large holes to promote ventilation. Plants should be divided after they flower.

The flowering period is about two months after that of Cattleya warscewiczii that is in the month of May. Plants obtained from seed have a much better development than wild collected ones. In the first months after seeding, they like to be crowded to achieve better growth.

It is very important to say that Cattleya aurea is on the brink of extinction. Wild collected plants simply should not be sold. This because the chance of dying is very large and because there are almost no plants left in the wild to regenarate the original populations.

Cattleya aurea chrysotoxa “Dinde”

Cattleya aurea chrysotoxa “Furor”

Cattleya aurea chrysotoxa “Mekong”

Cattleya aurea chrysotoxa “Renacer”

Cattleya aurea chrysotoxa “Mapiripana”

Cattleya aurea chrysotoxa “Horizonte”

Cattleya aurea collected near Pueblo Rico (variety chrysotoxa) showing two kinds of lip color.

Cattleya aurea Baudó. This is a rare specimen from an area where only a few plants have been described.

Cattleya aurea showing both kinds of lips.

Cattleya aurea dureda “Aguacerito”

Cattleya aurea dureda rosea x Self

Cattleya aurea dureda “Azahar”

Cattleya aurea dureda “Angarita”

Cattleya aurea dureda “Canario”

Cattleya aurea dureda “Borrasca”

Cattleya aurea dureda “Colón”

Cattleya aurea dureda “La Pasión”

Cattleya aurea dureda “El Bordo”

Cattleya aurea dureda “El Balcón”

Cattleya aurea dureda “Inspiración”

Cattleya aurea dureda “El Labelo”

Cattleya aurea dureda “El Balcón”

Cattleya aurea dureda “La Playa”

Cattleya aurea dureda “Livingston”

Cattleya aurea dureda “Mentirita”

Cattleya aurea dureda “Quibdó”

Cattleya aurea dureda “La Rayada”

Cattleya aurea dureda “Rayito”

Cattleya aurea dureda “Real”

Cattleya aurea dureda “Reina”

Cattleya aurea dureda “Reina”

Cattleya aurea dureda “Renacer”

Cattleya aurea dureda “Riviera”

Cattleya aurea dureda “San Juán”

Cattleya aurea Chadó Sinú “Achachay”

Cattleya aurea Chadó Sinú “Arrogancia”

Cattleya aurea Chadó Sinú “Heliosis”

Cattleya aurea Chadó Sinú “Meridión”

Cattleya aurea Chadó Sinú “Picardía”

Cattleya aurea Chadó Sinú “Lucifer”

Cattleya aurea Chadó Sinú “ Sombrerillo”

Cattleya aurea Chadó Sinú “Torbellino”

Cattleya aurea Chadó Sinú “Viuda Negra”

Cattleya aurea Chadó Sinú “Zahorí”

Cattleya aurea Chadó Sinú “Zig Zag”

Cattleya hardyana

Cattleya hardyana

Cattleya hardyana is the natural hybrid between Cattleya warscewiczii and Cattleya aurea variety dureda. It is a rare occurrence in the wild and only few plants are ever found. This because the blooming period of Cattleya warscewiczii is generally around March while that of Cattleya aurea is towards the end of May.

It usually has the characteristic purple color of Cattleya warscewiczii on the petals and sepals and a perfectly hybrid color of both parent species on the lip. The tube of the lip is more open than that of Cattleya warscewiczii. The petals have a marked rib that runs through all through their length.

There are reports on the old literature that some semi alba plants were found, although I have not seen or heard of one that has been wild collected. Some variations on the intensity of the lip and sepals is more common.

It is found at elevations ranging from 700 meters above sea level up to 1.000 meters. Its natural range is Northwest of Medellín in the lower zones of Frontino.

The plant was discovered some 150 years ago and has been much sought after ever since. The color of the lip is so remarkable that one could say that once seen never forgotten.

Cattleya hardyana tipo “Jorge”

Cattleya hardyana tipo “Sua Mena”

Cattleya hardyana tipo “La Noche”

Cattleya hardyana semi alba

Cattleya hardyana semi alba

Cattleya hardyana semi alba

Cattleya mendelii

Cattleya mendelii

Cattleya mendelii was introduced in 1870 in England. It bloomed shortly after and was named after Sam Mendel, a well-known English collector.

Cattleya mendelii is very characteristic among the Cattleya of the labiata group, it has good size, good substance, and a large quantity of color variations. Usually, very little is written about Cattleya mendelii.

It has a vigorous and compact growth habit. It forms the bulbs and spaths up to two years before flowering, which occurs then profusely in the months of April to May, as all bulbs bloom at once. It is very difficult to find a specimen blooming outside that period of the year.

It may grow on rocks fully exposed to sunlight. The bulbs are ridged elongated and can be either slender or very thick.

The lip has two white side lobes the center is violet with a very attractive combination of colors. The yellow and purple veins of the throat merge into white. The petals usually look forward somehow similar to Cattleya aurea with a characteristic rib on the middle. The lip is much fringed. Each bulb bears two or three flowers but may have in rare cases up to five. Although there are reports that assure that the flowers can reach up to 20 cm, the average size is around 14 cm in diameter

It grows high on the trees at elevations ranging from 1.200 meters to 1.800 meters above sea level. It is thus, the Colombian Cattleya can withstand the coldest temperatures of all. This trait has been used to give some cold tolerance to its progeny.

Cattleya mendelii is found around Bucaramanga. To the east, its range reaches the state of Norte de Santander, to the north as far as the village of Pamplona and south down to the state of Boyacá. Even though its natural habitat is relatively small, each region where this Cattleya is found has very distinct specimens in color and shape

The best type specimens are found in the region around Málaga in the state of Santander. The variety coerulea comes from Oibá, Turbay and Suratá. Splash plants have been found around the village of Sotará.

Usually the areas where it is found have a dry colder period that induces blooming.

Cattleya mendelii should not be divided with less than 4 bulbs. In general, it is a difficult plant to get established; although once established, it is a good grower. A large plant of Cattleya mendelii can have more than 100 bulbs.

There are quite of few color varieties that have been found. Although white variants have been described in the old literature, none has ever been completely white. The standard coloration has pinkish petals and sepals, white tube on the lip, yellow veins that run inside the tube of the lip and finally a large purple dot at the apex of the lip. Some varieties are darker; however, a very dark clone has not been found either.

Coerulescens flowers are a relatively common occurrence in Cattleya mendelii. The bluest clone so far is probably "Sua Mena", this clone is quite dark but does not reach the deep coerulean blue color of other Cattleya. Selfing of this plant has produced very blue flowers as well.

The variety semi alba has also been well documented with both a small dot and a large purple dot at the tip of the lip. Splash plants are rare but can be outstanding in color contrast. Finally, the variety concolor was discovered some 10 years ago; since, only two other plants have been found.

Cattleya mendelii tipo “Afradisio”

Cattleya mendelii tipo

Cattleya mendelii semi alba

Cattleya mendelii tipo “Serpentina”

Cattleya mendelii tipo “Suspiro”

Cattleya mendelii tipo “la Bucanera”

Cattleya mendelii tipo “El Arroyo”

Cattleya mendelii quasi alba “Claro de Luna”

Cattleya mendelii quasi alba “claro de Luna”

Cattleya mendelii concolor “Bucaramanga”

Cattleya mendelii rosea “Clío”

Cattleya mendelii coerulescens “Espumas”

Cattleya mendelii coerulescens “Medellín”

Cattleya mendelii coerulescens “Judas”

Cattleya mendelii coerulescens quasi alba

Cattleya mendelii coerulescens “Sinfonía”

Cattleya mendelii coerulescens “Turbay”

Cattleya mendelii coerulea “Sua Mena”

Cattleya quadricolor

Cattleya quadricolor

Cattleya quadricolor was for a long time known as Cattleya chocoensis. Few Cattleya have had more names than this species, among them we will find bogotensis, candida and caucaensis. The species was described in 1849 by Lindley. The name chocoensis was probably given by the first orchid collectors to misslead other collectors from its true place of origin.

Cattleya quadricolor is the Colombian Cattleya with the smallest range of distribution of all, including Cattleya hardyana.

It is found along the Cauca river between the cities of Zarzal and some 5 kilometers north of La Virginia; and along the Rio La Vieja, a subsiadiary of the Cauca river. The plants are mostly found on old trees of Pisamo and Caracolí (Anacardium excelsium) that can reach heights of 60 meters. It was probably found on other trees but because they are not as tall, they were easier to reach by collectors. This species has become very uncommon in the wild.

Large plants are very rare to find in Collections, however, plants along the Rio La Vieja are impressive in size with well over 300 bulbs on the same plant. Plants have always long slender bulbs making this species very similar to Cattleya trianae originating in Cundinamarca.

The most commonly found color is semi alba with four colors, white petals and sepals, pink mauve base of the lip, yelow veins and large purple dot at the tip. Varieties with purple sepals and petals can be found but are rare. The variety quasi alba is found commonly with some faint mauve color on the throat. Alba varieties are rare.

A few splash plants have also been found; but, the most famous is "Kabuki", grown by Mr Tsubota for a long time. Few coeruleas have been found despite wide spread rumors. Many so called coerulea are more similar to light color semi alba than true blue.

An interesting fact about Cattleya quadricolor that separates it from other Cattleya species is the ability of being able to roll the leaf without breaking it. Most quadricolor plants are able to do that. This characteristic is unique to this species. If the leaf can be rolled it is a quadricolor, if it can't, it may or may not be a quadricolor.

Cattleya quadricolor requires very good light for adequate growth. It also requires very good air circulation and warmth throughout the year. In Collection, it is the most difficult of the Colombian Cattleya to establish along with mendelii. It also requires two seasons of dry weather to bloom. Under natural conditions, plants receive up to 300 mm of rain during the month of November. September and October are also rainy months.

Blooming takes place during the months of October, November and April during the rainy periods. Flowers spikes bear generally two flowers occasionally one or three.

Flowers are usually looking down at the ground and generally do not show themselves very well. Clones that have well presented flowers are scarce. The flowers are also very closed (like a bell) and do not open very well. These two characteristics have made this species one of the least

desirable for collectors and have also protected the species from going extinct in the wild. Flowers have also a very pleasant soft aroma that can be detected at noon.

This species has not been used for breeding despite its large petals and white coloration. The hybrid between quadricolor and trianae (Cattleya Madonna) is superb.

Cattleya quadricolor Tipo “Aydée”

Cattleya quadricolor quasi alba “Amparo”

Cattleya quadricolor semi alba “Bicolor”

Cattleya quadricolor quasi alba “Cristalina”

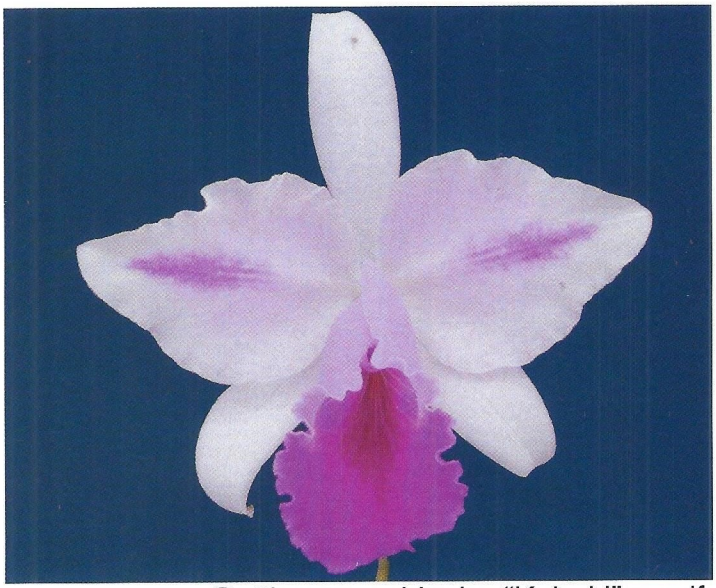
Cattleya quadricolor semi alba “Don Quijote”

Cattleya quadricolor tipo “Fiesta”

Cattleya quadricolor tipo “Garrapatas”

Cattleya quadricolor semi alba “Impresiones”

Cattleya quadricolor splash “ Kabuki”



Cattleya quadricolor “Kabuki” x self

Cattleya quadricolor “Kabukí” x self

Cattleya quadricolor quasi alba “La Gomela”

Cattleya quadricolor quasi alba “Lunar”

Cattleya quadricolor tipo “Moon”

Cattleya quadricolor coerulea “Omnes”

Cattleya quadricolor semi alba “Piedras de Moler”

Cattleya quadricolor tipo

Cattleya quadricolor oscura “Nora” x self

Cattleya quadricolor semi alba “Sancho Panza”

Cattleya quadricolor concololr “San Isidro”

Cattleya quadricolor semi alba “San Isidro”

Cattleya quadricolor quasi alba “Thomas”

Cattleya schroederae

Cattleya schroederae

This Cattleya was discovered in 1886 and named by Reichenbach as Cattleya trianae variety schroederae in honor of Baron Schroeder. Later, Sander gave it the status of a species on its own.

This species is one of the least known of all Colombian Cattleya Many people in Colombia say that a good Cattleya schroederae is a poor Cattleya trianae. Indeed, because of its usually twisted dorsal sepal, narrow petals and long labellum, Cattleya schroederae does not the status of other Cattleya in most collections. It has however some very nice characteristics that make it highly desirable.

The color was used and is still used to some extent to breed yellow Cattleya The lip has in general a very dark bright yellow to orange color. In rare cases, the throat becomes almost wine color. The color of the petals is light mauve. The dark yellow color of the lip is passed on to its progeny while that of its petals and sepals is usually not.

Flowering is impressive. In its natural habitat, plants of Cattleya schroederae can be seen clinging on lower tree branches with as many as nine flowers per spike. This amount of flowers on a single spike is only rivaled by Cattleya warscewiczii. The color contrast between the pale rose and the deep yellow lip make it an unforgettable sight.

The flowers have a very strong scent. It is sweet and particularly strong at noon and during hot days. This nice scent is one of the most distinguishing characteristics between schroederae and trianae. Cattleya schroederae also grows in the eastern slopes of the Cordillera Oriental (Eastern Range) while Cattleya trianae has a different habitat. Furthermore, the trumpet like lip with fringed margins can be used to set both species apart.

Flowering takes place in January in the middle of the dry season. While blooming, the plant nears desiccation, leaves shrink; the plant stagnates and looks like dying.

Plants can be found in forest habitats with high relative humidity as well as fully exposed to sunrays growing on rocks. Plants growing under forest habitats are larger and bulbs are more separated yielding bigger flowers. Plants that are more exposed to sunlight and air circulation have smaller, clumped and ridged bulbs but tend to give many more flowers per spike.

Cattleya schroederae has some interesting color variations. Many pictures seen on orchid books are misleading as the species is often confused with Cattleya trianae. This is one of the reasons Cattleya schroederae alba is supposed to be common. Only three or four alba are well known.

Besides the many natural color variations on the throat some varieties are worth mentioning. The variety anulata has a ring around the lip. There are also varieties with a purple dot on the lip. One of the most remarkable varieties is xanthina. This plant has an extraordinary deep yellow covering most of the lip and has possibly a great potential for breeding.

Cattleya schroederae lunata “Delta”

Cattleya schroederae anulata “Eclipse”

Cattleya schroederae “Guavio”

Cattleya schroederae tipo

Cattleya schroederae xanthina “Lucero”

Cattleya schroederae “Mámbita”

Cattleya schroederae "Mandarina"

Cattleya schroederae lunata "Mirolindo"

Cattleya schroederae lunata "Pinta"

Cattleya schroederae tipo

Cattleya schroederae "Santamaria"

Cattleya schroederae "Suesca"

Cattleya trianae

Cattleya Trianae

Cattleya trianae has had the most important role of all Cattleya both for cultivation as a species and for hybridizing of any other Cattleya or plants of the Laelinae tribe. This can be ascertained by the fact that over 510 hybrids have been registered using Cattleya trianae as one of the parents only followed closely by Cattleya aurea with almost 500 registered hybrids. Furthermore, Cattleya aurea and dowiana are considered as a single species by Sander's. Cattleya mossiae comes in third place

Despite its very important role in orchid history, many authors still have misconceptions about its varieties, the plant's morphological characteristics according to their original habitats, flowering periods and even historical facts.

A little bit of history.

Cattleya trianae was actually first discovered in 1783 by Eloy Valenzuela during the very famous Botanic Expedition led by José Celestino Mutis. Valenzuela described the plant as Epidendrum grandiflorum in great detail in his entry log of the 17th of September 1783. Strangely, the plant went almost without any recognition for a long time. The plant was collected around Mariquita.

The description was made from fresh material. Herbaria plates were also made at the time which still exist today. Furthermore, one water color was painted and a monochromatic drawing was also made. Both, the water color painting and the drawing were used in the 1950's as images for stamps in Colombia. At this time Cattleya trianae was elevated to the status of national flower, although there are no official papers that give it this official tittle. The true name of the plant should therefore read Cattleya grandiflora.

No plants of Cattleya trianae were shipped to Europe then and many plates of the Botanical Expedition were simply kept in herbaria for many years without any interest from the botanists.

The plates from the Botanical Expedition never reached Europe and therefore, according to Rucker, the first plants where collected around 1850 along the Magdalena river. Only a few species of Cattleya were described at the time. It is important to note that this is also the time in which Cattleya quadricolor was first seen by Rucker in his English greenhouse, and described by Lindley in 1849.

Rucker and Lindley and other botanists like Reichenback must have been very confused about the species. The plants that they received are quite similar in flower, color and plant morphology to Cattleya quadricolor. They are still confused today by some authors and many growers.

It is clear that the first plants to arrive in England must have been collected in the area that is now the State of Cundinamarca, along the road that went from Bogotá to the city of Honda. Honda is still a port of some importance on the Magdalena river. In the mid XIX century, travelers had to go to there to take a boat down to the sea in Barranquilla and off to Europe. Cattleya trianae did just that to get to Rucker's greenhouse in England.

As one takes the car from Bogotá to Honda and follows the same old routes, Cattleya trianae is still abundant in the area at heights ranging between 800 to 1300 meters above sea level.

No navigation on the Magdalena River is possible beyond a few miles upstream of Honda. Therefore, first plants could not have originated in the more southern regions of Huila where the other large Cattleya trianae population is found. No large urban developments existed then in this large piece of land. It is thus safe to assume that the large Cattleya trianae from the state of Huila with many flowers per spike, large petals and dark lip, and heavy massif pseudobulbs that we know today was not known then. Synonyms given to Cattleya trianae at the time like Cattleya Bogotensis can only make this point more clear.

Habitat

This brings us then to the Habitat of Cattleya trianae that we know today. There are two distinct areas in which we can find Cattleya trianae.

The northern region is located along both sides of the Magdalena river. At the west, from about La Dorada down to Payandé; at the east also from La Dorada southwards to Guaduas. This region comprises part of the states Cundinamarca, Tolima, and finally Antioquia. Part of their habitat coalesces with the habitat of Cattleya warscewiczii northwest of La Dorada. Plants are found at heights ranging from 700 - 800 to 1300 meters above sea level, possibly a bit higher in the eastern side and lower in the west. The area is quite dry twice a year from December to mid March and from July to the end of September, this is specially true in the State of Tolima (western population).

Plants will completely dry out due to the almost absolute lack of rainfall and to the hot wind that blows constantly from the lower areas. During these periods temperatures can reach 37 °C to over 40 °. Cattleya Plants are exposed to some direct sun light but they prefer to find cover underneath the canopy of large tall trees that grow along the rivers. However, it is possible to find very large plants growing in rocks fully exposed to sun light. During the 7 months of rain, the plants develop new roots and shoots. Rainfall will be up to 1.500 millimeters a year in average.

The plants found in this region have slender pseudobulbs, narrow long leaves and usually bear two at the most three flowers in June and sometimes in December. Plants are quite similar to Cattleya quadricolor. It is also worth noting that the stem of the flower is quite long. The color of the flower is usually light pink to pale lavender. However, this region produces a large number of color variations that range from an almost pure white to lavender. It is also common to find concolor forms and true semi alba clones. True alba forms are very rare. The color variation is remarkable in this area. No two plants are ever alike.

Flowers reach 14 to 16 cm. The petals are twice as large as the sepals. The dorsal sepal has a tendency to fall back, sometimes it also folds and tries to form a tube at its base. The petals have more marked mid ribs and are narrow at the base. In general, the color contrast between the lip and the rest of the flower is not as great as one would expect in Cattleya trianae. The color on the tip of the lip is purple and forms a triangle that is very characteristic in this Cattleya. Like most trianae, plants are easy to grow and when mature, they will flower easily.

This area was extensively collected during the end of the XIX th century and the beginning of the XX th century until the new population of the south (Huila) was found. The first description of Cattleya trainae by Lindley and Reichenback was made from a plant collected in this region as was explained earlier.

The second area where Cattleya trianae is found has a "U" shape that stretches from Southern Tolima, crosses all the State of Huila and reaches the State of Cauca; towards the point where the eastern range (Cordillera oriental) and the central range (Cordillera Central) separate. The Magdalena river is located in between both of them. Some reports extend the range all the way to Ecuador, although this is very doubtful given the type of hot humid climatic conditions of the rainforest of northern Ecuador

Plants are found at heights of 900 to 1.400 meters above sea level. In general the area is humid or very humid near the small rivers, in particular to the south. The dry period emulates that of the northern region but is much milder. It should be fair to assume that the southern area is the point of origin and distribution of Cattleya trianae since winds blow from the north to the south along the Magdalena river. As the valley widens the habitat becomes dryer as well. The desert of La Tatacoa, which is the driest and possibly the hottest region of Colombia, divides both regions. No plants are found on the slopes of the mountains on both sides of this desert, probably because it is to dry and hot during the dry season.

With few exceptions, plants found in this area are much more desirable for collection purposes than those found in the north. Plants have thicker, greener and darker psudobulbs and leaves. Some plants will show spotted leaves almost to the point that they seem stained. The leaves are short and wide. Their growth habit is more compact.

The blooming time is around the months of August to October with very few plants blooming in march. Each flower spike bears up to six large flowers reaching 16 to 18 cm across. The typical color is lavender - purple although very dark flowers are found as and very few true alba plants. Petals are sometimes three times as large as sepals and are flatter. Flower shape can be quite round to the point it almost fill the imaginary circle that most collectors desire.

The best plants are found in the far south part of the habitat. The best plants ever collected are found between Pitalito and Gigante. Many of the clones that are famous like A. Cattleya Bourage, Mary Fennell, Jungle Queen, Mariposa, Mooreana and many others were discovered in the area. Cattleya trianae Aranka Germanske should be considered as a hybrid.

The interest for Cattleya species declined for almost 40 years, keeping the plants somehow safe in their habitat. Colombian growers have done a good job at keeping the plants safe in their habitat while breeding to make new better plants. Some outstanding plants have been found that are in average much better than the older more famous clones.

Color variations.

Brazilian growers have done a better job at describing the varieties of Cattleya labiata than the Colombian growers. The same color variations found in Cattleya labiata can be found in Cattleya tranae, although their occurrence is quite different.

The typical coloration of Cattleya trianae has lavender petals and sepals with a triangular purple dot on the lip very characteristic of the species. The colors on the lip will never mix together. With few exceptions, the side lobes of the lip are not white.

The most remarkable of color variations is concolor, because the frequency of concolor flowers is the largest of any Cattleya species. In the region of Tolima - Cundinamarca it is actually quite common, although their shape is never very good. There are light concolor to dark lavender concolors.

In the 70's a Cattleya trianae plant with a very dark coloration was found and was awarded a JC by the A. O. S. Its clonal name was so good that it became a common name for dark variations of the species. Sangre Toro variations are rare and they belong to the concolor family as the lip petals and sepals have the same dark almost red color. Although the original Sangre Toro is still in cultivation and remains an extraordinary plant, new darker and better forms have been found or bred since. The meaning of sangre toro in spanish is bull's blood.

Cattleya trianae coerulea was found some 15 years ago. Only about 25 to 30 plants have ever been found to have a blueish coloration. Many have very faint blue lips others have a very strong blue lips and petals. One Cattleya trianae splash courulea has been found however, only pictures have been shown of the plant. Many of these clones are not very well known.

Many times it is possible to find Cattleya trianae semi alba labelled as coerulea. Cattleya trianae semi alba have pristine white petals and sepals with a purple - reddish dot at the tip of the lip that can vary its intensity. Although remarkable in color, the shape of the flower is never very good. With few exceptions like "White Kimera", "Santa Teresa" and "Mancha" There are simply not many semi alba Cattleya trianae with very good shapes.

True alba forms are possibly as rare as coerulea forms. There are many quasi alba plants that have been collected over time but most have a faint, almost invisible color on the lip that disqualifies them as alba plants. True white plants with good shapes are almost impossible to see.

Lastly, splash flowers are also found. The intensity of the splash may vary depending on the clone but it can be quite faint to very noticeable like in "Mirada India".

Cattleya trianae tipo “54”

Cattleya trianae tipo “86”

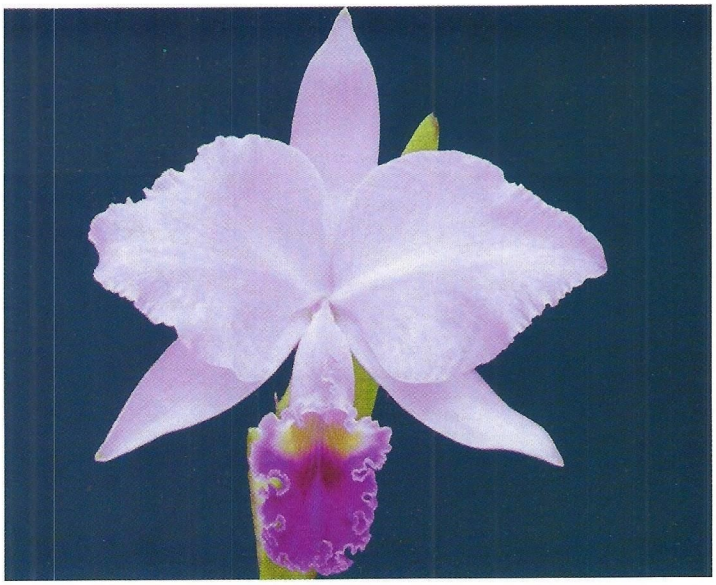
Cattleya trianae tipo “Admiración”

Cattleya trianae tipo “Arrabal”

Cattleya trianae tipo “Atardecer”

Cattleya trianae tipo “Atomo”

Cattleya trianae tipo “Aurora”



Cattleya trianae tipo “Bolero”

Cattleya trianae tipo “Bolivar”

Cattleya trianae tipo “Canción de Amor”

Cattleya trianae tipo “Canela”

Cattleya trianae tipo “Caribe”

Cattleya trianae tipo "Catatumbo"

Cattleya trianae cegata "Cegata"

Cattleya trianae tipo "Centella"

Cattleya trianae tipo "Contrastes"

Cattleya trianae tipo

Cattleya trianae oscura "El Navegante"

Cattleya trianae tipo “Elegance”

Cattleya trianae lunata “Elite”

Cattleya trianae tipo “Ensueño”

Cattleya trianae tipo “Erato”

Cattleya trianae tipo “Fiesta”

Cattleya trianae tipo “Fragor”

Cattleya trianae tipo “Genoveva”

Cattleya trianae oculata “Goliath”

Cattleya trianae tipo “Hierbabuena”

Cattleya trianae tipo “In Memoriam Pater”

Cattleya trianae tipo “Indomable”

Cattleya trianae tipo “intensa

Cattleya trianae tipo “Jerarca”

Cattleya trianaequasi concolor “Labelo Extraño”

Cattleya trianae lunata “Lunata”

Cattleya trianae cegata “Carolineña”

Cattleya trianae tipo “Magna”

Cattleya trianae oscura “Maria Jesus”

Cattleya trianae tipo “Marzo 22”

Cattleya trianae cegata “Mediodia”

Cattleya trianae tipo “Minerva”

Cattleya trianae tipo “Nacional”

Cattleya trianae tipo “Napoleón”

Cattleya trianae tipo “Obregón”

Cattleya trianae oculata “Oculata”

Cattleya trianae cegata “Onirica”

Cattleya trianae tipo “Opon”

Cattleya trianae lunata “Pájaro”

Cattleya trianae tipo “Patricia”

Cattleya trianae tipo “Pereira”

Cattleya trianae tipo “Perla del Otún”

Cattleya trianae tipo “Poporapo”

Cattleya trianae tipo “Premier”

Cattleya trianae tipo “Quirama:

Cattleya trianae tipo “Raudal”

Cattleya trianae tipo “Redondita”

Cattleya trianae cegata “Reina”

Cattleya trianae tipo “Repa”

Cattleya trianae tipo “Riminí”

Cattleya trianae tcegata “Rio Magdalena”

Cattleya trianae oscura “Socavón”

Cattleya trianae tipo “Sol de los Venados”

Cattleya trianae tipo “Sol Naciente ”

Cattleya trianae oscura “Solferino”

Cattleya trianae oscura “Sombra”

Cattleya trianae tipo “Sonata”

Cattleya trianae tipo “Suspiro”

Cattleya trianae tipo “Tarde”

Cattleya trianae tipo "Terciopelo"

Cattleya trianae tipo "Trece"

Cattleya trianae tipo "147"

Cattleya trianae tipo "J.F.L."

Cattleya trianae splash "Cachivache"

Cattleya trianae splash "Cachivachito"

Cattleya trianae trianae splash “El Rey”

Cattleya trianae splash “Leticia”

Cattleya trianae splash “Mirada India”

Cattleya trianae splash “Otún”

Cattleya trianae splash “Rayona”

Cattleya trianae splash “Rubor”

Cattleya trianae splash “José Fernando Londoño”

Cattleya trianae concolor “Aguamiel”

Cattleya trianae concolor “Amarilla”

Cattleya trianae quasi concolor “Carmín”

Cattleya trianae concolor “Chinchiná”

Cattleya trianae concolor “Cristales”

Cattleya trianae lunata “Daniela”

Cattleya trianae lunata “José Valencia”

Cattleya trianae lunata “Macondo”

Cattleya trianae quasi concolor “Marquesa”

Cattleya trianae quasi concolor “Maruja”

Cattleya trianae concolor “Misión”

Cattleya trianae concolor “Montenegro”

Cattleya trianae concolor “Murmullo”

Cattleya trianae concolor “Nicolás”

Cattleya trianae concolor “Paris”

Cattleya trianae concolor “Pecosa”

Cattleya trianae quasi concolor “Pinta”

Cattleya trianae concolor “Poseidón”

Cattleya trianae quasi alba “Rosada”

Cattleya trianae lunata “tigre”

Cattleya trianae concolor “Thomas Toulemonde”

Cattleya trianae alba “Alba Pura”

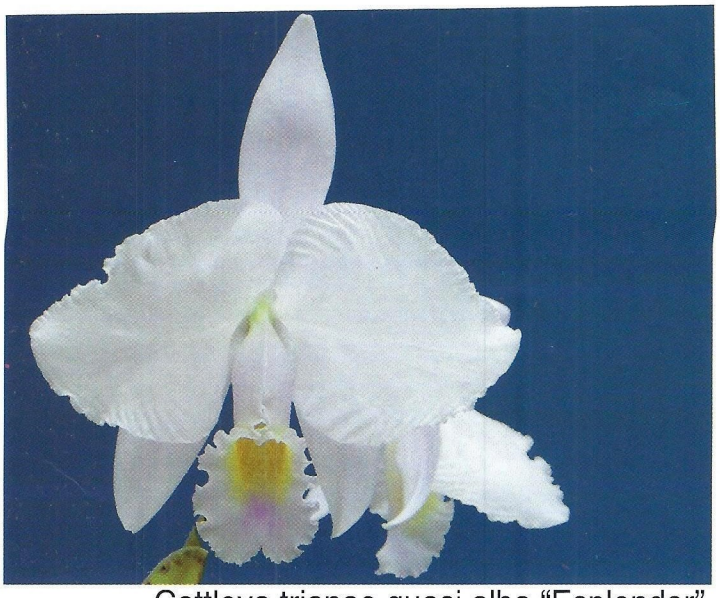
Cattleya trianae alba “Alba Pura”

Cattleya trianae quasi alba “Alborada”

Cattleya trianae alba “Algodón”

Cattleya trianae alba “Cartagena”

Cattleya trianae alba “El Pasha”



Cattleya trianae quasi alba “Esplendor”

Cattleya trianae alba “Etoile”

Cattleya trianae alba "Gabriala"

Cattleya trianae alba "Gentil"

Cattleya trianae quasi alba "Jacanamijoy"

Cattleya trianae alba "Pompadour"

Cattleya trianae quasi alba "San Alejandro"

Cattleya trianae quasi alba "Santo Tomás"

Cattleya trianae alba “Selva”

Cattleya trianae semi alba “Algarrobo”

Cattleya trianae semi alba lunata “Altagracia”

Cattleya trianae semi alba “Antigua”

Cattleya trianae semi alba “Centavito”

Cattleya trianae semi alba “Despecho”

Cattleya trianae semi alba “Mancha”

Cattleya trianae semi alba “Polilla”

Cattleya trianae semi alba “San Jorge”

Cattleya trianae semi alba “Santa Teresa”

Cattleya trianae semi alba from laboratory

Cattleya trianae semi alba “Polilla”

Cattleya trianae quasi semi alba “Venus”

Cattleya trianae semi alba “White kimera”

Cattleya trianae concolor “Alcatraz”

Cattleya trianae concolor “Altos de Roubaix”

Cattleya trianae quasi alba “Argentina”

Cattleya trianae quasi alba “Azuquitar””

Cattleya trianae coerulescens “Cauca 1”

Cattleya trianae coerulescens “Cauca 2”

Cattleya trianae coerulescens “Daniel Acevedo”

Cattleya trianae coerulescens “Emperatriz”

Cattleya trianae quasi alba “Io”

Cattleya trianae coerulescens “Jose “

Cattleya trianae coerulescens “Lavanda”

Cattleya trianae coerulescens “Madrigal”

Cattleya trianae semi alba “May”

Cattleya trianae quasi concolor “Sua Mena”

Cattleya trianae coerulescens “003”

Cattleya trianae coerulea “Angeles”

Cattleya trianae coerulea “Añil”

Cattleya trianae coerulea “301 Canasta”

Cattleya trianae ceniza “Ceniza”

Cattleya trianae coerulea “Chello”

Cattleya trianae coerulea “Chello”

Cattleya trianae coerulea “Cian”

Cattleya trianae coerulea “Daniel”

Cattleya trianae coerulea “Dominó”

Cattleya trianae coerulea “Elsy”

Cattleya trianae coerulea ceniza “Eva”

Cattleya trianae

Cattleya trianae coerulea ceniza “Manantial”

Cattleya trianae coerulea “33 Pote”

Cattleya trianae coerulea “Punto Azul”

Cattleya trianae coerulea “Quimbaya”

Cattleya trianae coerulea “Romelia”

Cattleya trianae coerulea “Salazar y Londoño”

Cattleya trianae coerulea “Socrates”

Cattleya warscewiczii

Cattleya warscewiczii

Cattleya warscewiczii is the best known of all Colombian Cattleya, although, it is safe to assume that it is not the most popular among hobbyists, simply because in the northern hemisphere, the blooming season is usually during the hot months of July and September.

The plant was discovered near Frontino in 1849 by Josef Warscewicz. Most plants from the early collection perished during the trip to Europe and it was not until some 20 years later that the plants became more popular in the European collections. By the end of the XIXth century, they received very high awards by the Royal Horticultural Society. It also received the name of Cattleya gigas because of its size, but this name is only a synonim of Cattleya warscewiczii.

A friend of mine told me once that you do not need to be an orchid grower to appreciate the beauty of this Cattleya. It is indeed a magnificent Cattleya when it is in full bloom. Not many orchids compare to it at during blooming season.

During my literature search on articles about Colombian Cattleya I had some trouble finding good articles that describe accurately the habitat, the flower, the plant's morphology and also that provide some guide as to how to cultivate the them. I found the best article ever published on any Colombian Cattleya in Orquideología in the issue of December of 1973. The article was later re-published in English in the Orchid Digest of April 1996. Anything that can be written can hardly improve on that particular article about Cattleya warscewiczii.

As with most Colombian Cattleya, there are very clear and defined zones where the plant is found in its natural habitat. Although most have subtle differences as to their morphology and chromatic variations, important color variations in this Cattleya are rare to find.

Zone 1: Frontino - Dabeiba
This zone is located some 150 kilometers Northwest of Medellín towards the Urabá zone where Cattleya aurea variety dureda is found. It is found at elevations between 700 to 1.000 meters above sea level. It is the possible to find Cattleya hardyana in this habitat as well.

Most color variations come from this region. The variety used to be called imperialis. Alba, semi alba, cegata, coerulea, light semi alba, and very dark forms can be found, although the normal color form is pink to dark lilac pink. The lip is usually very round and the shape of the flower is, on average, the best of all zones where cattleya warscewiczii is found.

Blooming takes place in March and April after a dry season that started mid - December. Each flower spike will have between three to five flowers. Plants receive water abundantly during and after the blooming season until mid June.

Mr. Warscewicz discovered this Cattleya in this region.

Zone 2: Porce

Most cattleya are found along riverbeds where air circulation is always present. Cattleya warscewiczii grows also along the Porce River down to the village of Amalfi. The region is only about 80 to 100 kilometers due North of Medellín.

This variety can be in many ways compared to the Frontino – Dabeiba variety, both because of its color variations and because of the shape of the flower. However, flowers tend to be a bit lighter in color and therefore the cegata or darker varieties are more difficult to find.

The region is somehow drier than Frontino – Dabeiba and this may cause the plants to have smaller flowers but if abundant water is given during bud formation and after flowering, there will be virtually no difference between the flowers of both regions.

Zone 3: San Juan.
This zone is also called Amagá. It is found some 100 kilometers Southwest of Medellín. Even though the plants can be found near the village of Amagá (25 kilometers South of Medellín), the main area where this variety is found is along the San Juan River, a subsidiary of the Cauca River. If one continues some 50 kilometers up the Cauca River (to the North) one would find Cattleya quadricolor.

Alberto Echavarria and Rodrigo Escobar describe plants having a "smaller size and lesser quality". I can only agree with this statement. However, There is something very extraordinary about these plants, that is the way they bloom. They simply cover themselves with flowers in the month of April.

Although there is a famous alba variety called Amagaceña (From Amagá), it is doubtful that it really comes from this area as it does not have smaller flowers and is very good in shape. There is simply no color variation on this area.

Zone 4: Carare Opón Zone
The variety is also called Sanderana. It is found where the Sates of Antioquía, Cundinamarca Santander and Boyacá come together along the Magdalena River. Blooming takes place about a month after all other zones, probably because the plants receive more water for longer periods.

Plants are found in wooded areas to deeply forested areas. Plants of this variety can stand heavier water regimes than the plants originated in the other varieties. Plants are also larger and more massive.

The main difference however is in the size of the flower and the quantity of flowers per bloom. Flower size can reach 23 centimeters across and each flower spike can bear some 10 flowers. This is unique to this Cattleya. The shape of the sanderana type will never match that of other variants simply because of the size and the clear rib in the middle of the petals. The petals rarely overlap.

The region is difficult to reach and plants grow in tall trees (Anacardium). Few color varieties come from this region, probably because it has been less collected and because there are fewer persons living in the area. Peasants tend to collect color variations and keep them

in their homes as decoration. Having fewer people on the area also probably means fewer possibilities to find newer color forms.

Despite the fact that color variations are rare, all color forms described in other Cattleya are present in warscewiczii except concolor. There was a true concolor plant called "Goyo" which died in cultivation soon after it was collected. Only a nice old picture is left of that plant.

It is possible to find true alba forms such as "Envigado" "Porce" and the magnificent "Firmin Lambeau" all the way to a very dark color form like "Ebano". Coerulea variations can also be splendid; among them, "Mamá Polita" also called "La Floresta", "Helena de Ospina" "Ituango" and many others.

Much work has been done through breeding to improve the shape and color of Cattleya warscewiczii. It is now possible to find most variations in excellent shapes. Mr. Francisco Villegas from Orquifollajes has done a remarkable job in this area.

Cattleya warscewiczii tipo “214”

Cattleya warscewiczii tipo “Agualinda”

Cattleya warscewiczii tipo “Angostura”

Cattleya warscewiczii tipo “Anita”

Cattleya warscewiczii tipo “Aydée”

Cattleya warscewiczii tipo “Cafetal”

Cattleya warscewiczii tipo "Carlos Alberto"

Cattleya warscewiczii cegata "Cegata "

Cattleya warscewiczii lunata "Celeste x Dabeiba"

Cattleya warscewiczii tipo "Colación"

Cattleya warscewiczii tipo "Combia"

Cattleya warscewiczii marmorea "Dosquebradas"

Cattleya warscewiczii tipo “Eladio”

Cattleya warscewiczii tipo “El Chocho”

Cattleya warscewiczii tipo “El Obispo”

Cattleya warscewiczii tipo “El Velero”

Cattleya warscewiczii oculata “Estelar”

Cattleya warscewiczii tipo ”Evaristo”

Cattleya warscewiczii tipo “Gigante”

Cattleya warscewiczii oscura “Guy”

Cattleya warscewiczii cegata “Labelo Extraño”

Cattleya warscewiczii marmorea “La Diabla”

Cattleya warscewiczii tipo “Marginata”

Cattleya warscewiczii marmorea “Marzo”

Cattleya warscewiczii lunata "Monos Nutibara"

Cattleya warscewiczii cegata "Pereirana"

Cattleya warscewiczii splash "José Fernando"

Cattleya warscewiczii tipo "Tomo"

Cattleya warscewiczii tipo

Cattleya warscewiczii tipo

Cattleya warscewiczii marmorea “Yacopí”

Cattleya warscewiczii semi alba ”Cañas Gordas”

Cattleya warscewiczii semi alba “Carare”

Cattleya warscewiczii semi alba “Katía”

Cattleya warscewiczii semi alba “Leticia”

Cattleya warscewiczii semi alba “Maria Teresa”

Cattleya warscewiczii semi alba “Maria Teresa”

Cattleya warscewiczii semi alba “Pacho Villegas”

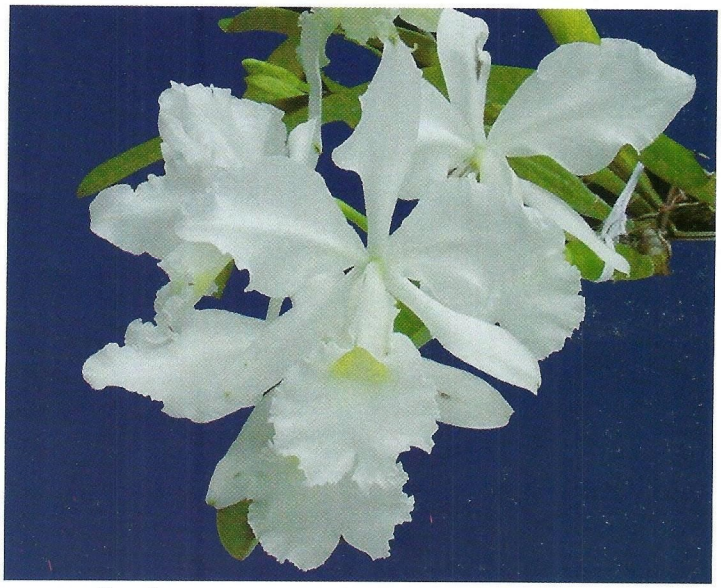
Cattleya warscewiczii alba “214”

Cattleya warscewiczii alba “Angarita”

Cattleya warscewiczii alba “Blanquita”

Cattleya warscewiczii quasi alba “Despertar”

Cattleya warscewiczii alba “Firmin Lambeau”



Cattleya warscewiczii alba “Gabriela White”

Cattleya warscewiczii quasi alba “Guy “

Cattleya warscewiczii quasi alba “La Vieja”

Cattleya warscewiczii alba “Marisa”

Cattleya warscewiczii quasi alba “Martha Posada”

Cattleya warscewiczii alba “Sua Mena”

Cattleya warscewiczii alba “Thomas”

Cattleya warscewiczii coerulea “Akemi”

Cattleya warscewiczii coerulescens “Amparo”

Cattleya warscewiczii coerulescens “Azulina”

Cattleya warscewiczii coerulea “Azur”

Cattleya warscewiczii coerulea “Enamoradora”

Cattleya warscewiczii coerulea “Floresta”

Cattleya warscewiczii coerulescens “Godó”

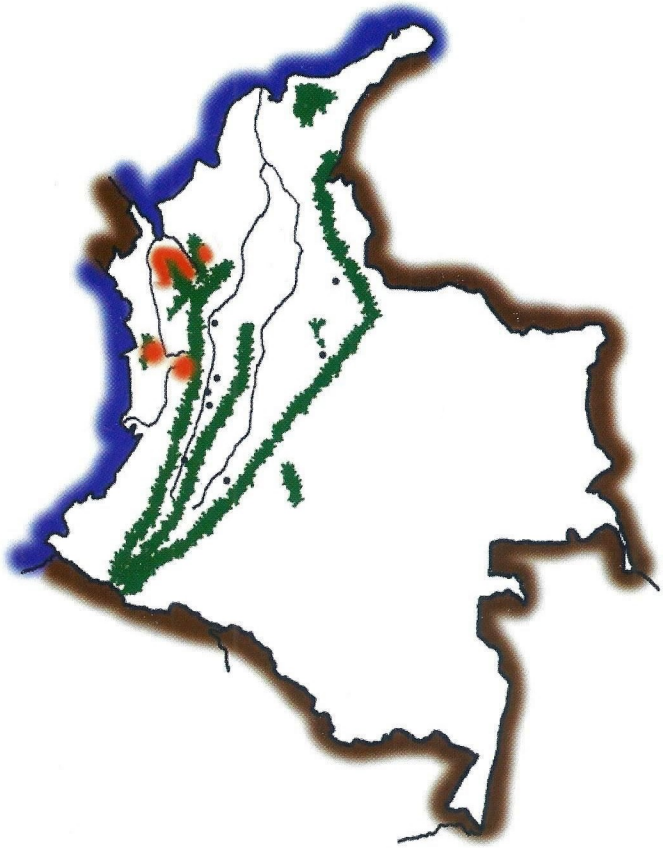
Cattleya warscewiczii coerulea “Luna Nueva”

Cattleya warscewiczii coerulea “Merceditas”

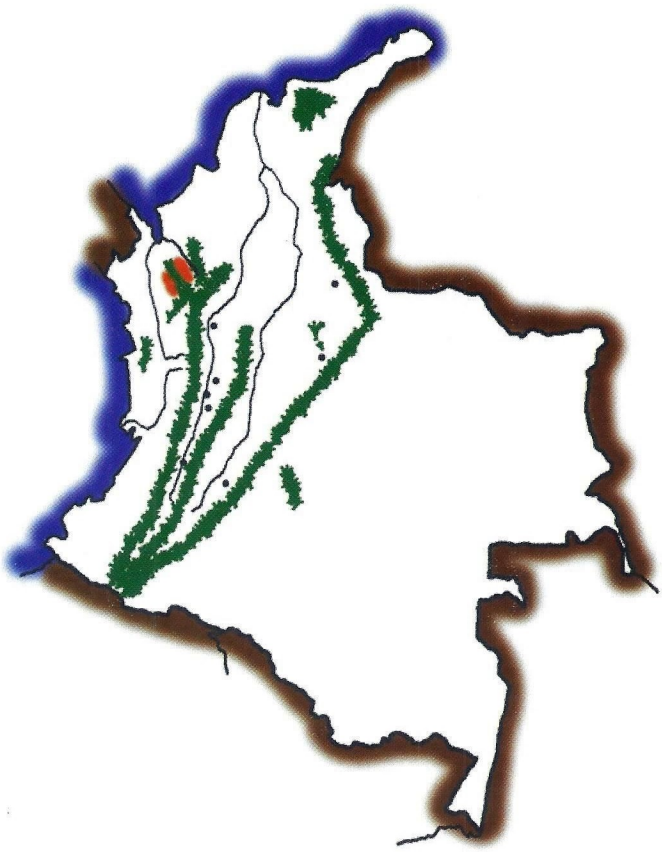
Cattleya warscewiczii coerulae “Perfecta”

Habitat of the Colombian Cattleya

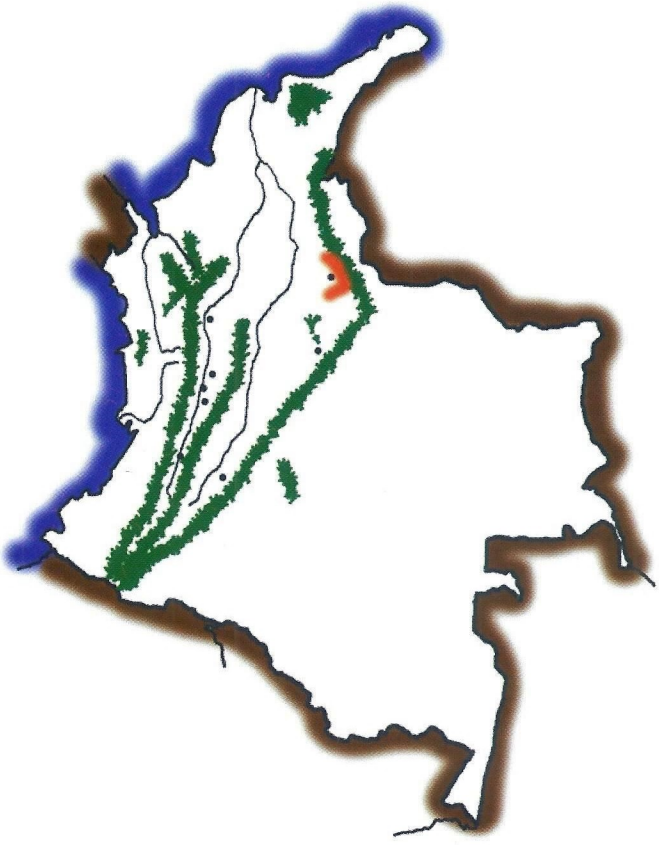
Cattleya aurea



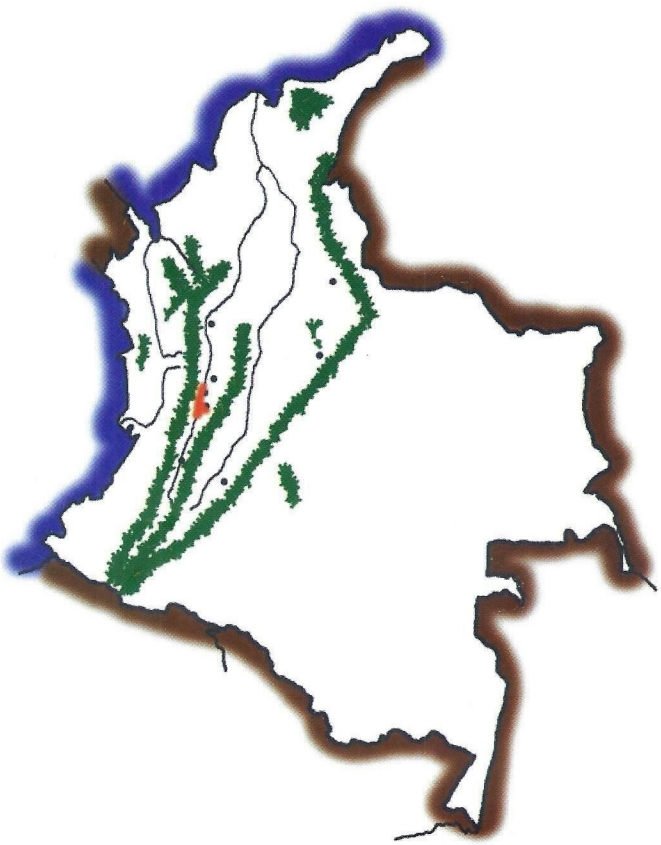
Cattleya hardyana



Cattleya mendelii

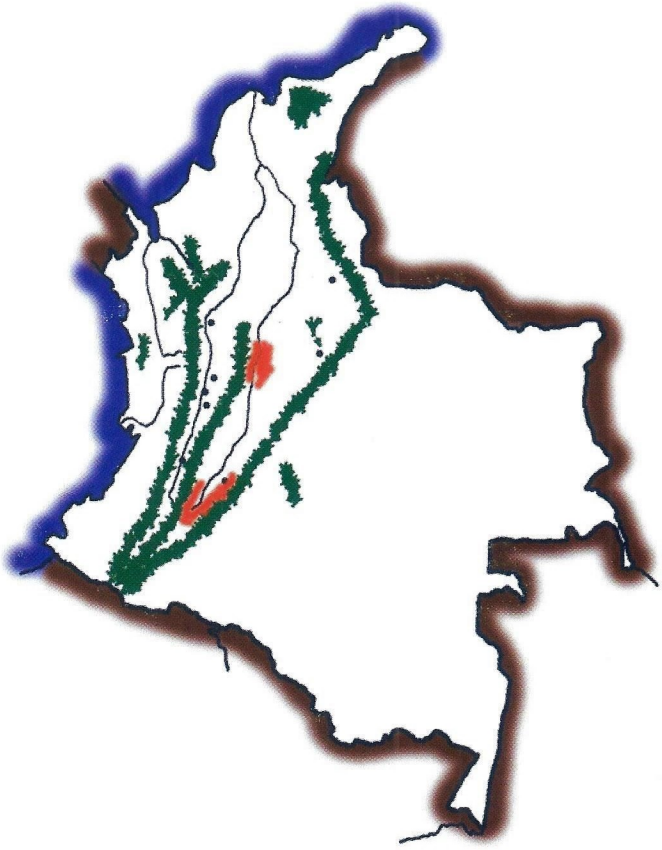


Cattleya quadricolor

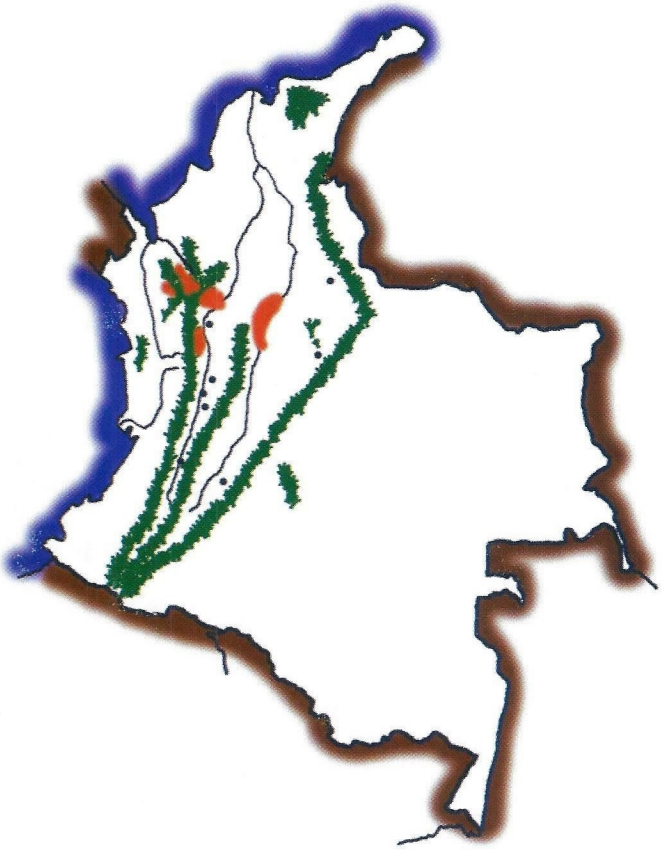


Cattleya schroederae

Cattleya trianae



Cattleya warscewiczii



Description of color variation on Colombian Cattleya

Description of color variations on Colombian Cattleya

Although each plant is different in color and thus should have a specific color variety and name by itself, the following 15 color variations are proposed in order to facilitate their classification. A combination of two or more names may be used to better describe the true color of the flower.

Alba: Flowers have pure white sepals, petals and lip. If a blank piece of paper or a white handkerchief is placed behind the flower, no color is visible. The throat is yellow, and no pink can be seen in any part of the flower. The tip of the roots is also pure green.

Cegata: Typical pale pink to mauve color of the flower or eventually darker, but the eyes of the lip are so small to the point that they have almost completely disappeared. This is most common in Cattleya warscewiczii and trianae where the "eyes" are usually more noticeable.

Ceniza: Very similar to coerulea but the color of the lip is more gray and the petals and sepals are not pure white but pale-blue lavender. It could be considered as a coerulea with typical coloration of the petals and sepals.

Coerulea: Petals and sepals white or with a very faint bluish coloration. The lip has a strong ash-gray to blue color, which lacks the typical red color most commonly found in Cattleya.

Coerulescens: Usually applies to darker quasi alba forms that do not have the strong blue gray color of the coerulea type. The petals and sepals should be mostly white.

Concolor: The color of the petals and sepals is similar to that of the lip. The throat is yellow. If a plant is completely white, then it should be called alba.

Lunata: Petals and sepals pale rose with the apical zone of the lip similar in color to the sepals and petals but with a darker dot in the center of the lip.

Marmorea: This color variety applies mostly to Cattleya warscewiczii. These flowers seem to have the uniform typical color on the lip but the lip color is actually created by a myriad of little dots that are similar in color. It is possible to have marmorea and other color such as coerulea at the same time.

Oculata: Typical lighter or darker color of the flower but the eyes are large and coalesce to form a big dot in the middle of the lip.

Oscura: It is in essence a very dark color form but with lip extremely dark. In Cattleya trianae these plants are generally called "Sangre Toro".

Quasi alba: Similar to the alba form but with a faint and barely visible coloration on the tip of the lip.

Quasi concolor: This color variety is similar to concolor but with a slightly darker dot in the

middle of the lip. The margins of the lip are identical in color to the petals and sepals. It is a lunata variety but with a lesser contrast.

Rosea: Pinkish coloration rather than the usual pale mauve on the lip and sometimes in the petals and sepals.

Semi alba: Sepals and petals are pure white the tip of the lip is crimson red. The size of the dot may be small or may cover the entire lip surface.

Splash: This is the typical coloration for the species but with a darker stripe at the tip of the petals. The stripe may be small or very large. The darker stripe is similar to the color of the tip of the lip. In occasions, sepals can have the same darker coloration as well.

Tipo: Describes the most commonly found color form of the species.

Biographical Sketch

Thomas Toulemonde was born in New York on February 10 1967. He has spent most of his life in Colombia where he resides now and where his parents moved since 1948 from France. In 1997 he married Aydée Cárdenas.

He received a Bachelor of Science in Soil and Crop Science from Purdue University in Indiana. In 1992 he received a Master of Science degree in Botany and Plant Physiology from Cornell University in New York.

The author has been growing orchids since a very early age. He received the love for orchids from his mother who has been growing orchids for over 50 years. During his spare time, he takes care of the large Cattleya species collection with his brother, mother and wife. The collection houses well over 10.000 colombian Cattleya and is better known as Orquideas Sua Mena.

During many years he has travelled through Colombia to see and study Cattleya in their natural habitat.

In 1995 he publish the *"Proceedings of the XX International Orchid Show"* held at Pereira Colombia. In 2002 he published a "*Field Guide for the Classification of the Genus Gongora*".

Presently, he presides over Agricola Las Cascadas S.A. a company that produces and ships anthurium pot plants and cut flowers for the American and European markets.

Printed in Colombia
by Pereiracomercial.com
www.pereiracomercial.com
Phone (576) 330 4235

Second Edition
March 2004
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